
REMARKS

Applicants have carefully reviewed and considered the Office Action mailed on January 28, 2003, and the references cited therewith.

Claims 1, 4, 19, 32, 36, and 40 are amended. Claims 3, 5-6, 20, 33, 37, and 41 are canceled (claims 13-15 and 25-31 were previously canceled). Claims 46-51 are added. As a result, claims 1-2, 4, 7-12, 16-19, 21-24, 32, 34-36, 38-40, and 42-51 are now pending in this application.

For the convenience of the Examiner, Applicants' remarks concerning the claims will be presented in the same order in which the Examiner presented them in the Office Action.

Information Disclosure Statement

Applicants are concurrently filing an Information Disclosure Statement containing citations originating from an International Search Report for Applicants' corresponding PCT application. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the Form 1449, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Amendments to Claims 1, 4, 19, 32, 36, and 40

Each of claims 1, 4, 19, 32, 36, and 40 has been amended. No new matter has been introduced.

In independent claim 1, additional language has been incorporated from dependent claim 3, which was indicated as allowable by the Examiner if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Specifically, the language "zigzag pattern having a plurality of zigzag rows" has been substituted for "pattern from the group consisting of a zigzag pattern, a wave pattern, an undulating pattern, a vertical stack pattern, and any combination of a zigzag pattern, a wave pattern, an undulating pattern, and a vertical stack pattern". Only one member of the Markush group originally recited in the base claim has been retained, namely "an undulating pattern", which limitation the Examiner indicated as patentable.

In dependent claim 4, the claim dependency has been changed from claim 3 to claim 1.

In independent claims 19, 32, 36, and 40, the language “wherein the maximum trace escape density equals the reciprocal of $(Tw + Ts)$, and wherein Tw equals the width of the traces and Ts equals the spacing between the traces” has been incorporated from dependent claims 20, 33, 37, and 41, respectively. Claims 20, 33, 37, and 41 were indicated as allowable by the Examiner if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Also, in independent claim 36, the language “and within the die-bonding area” has been added.

New Claims 46-51

New claims 46-51 have been added to provide Applicants with additional protection to which Applicants are entitled. New claims 46-51 are supported by the original disclosure. No new matter has been introduced.

New independent claim 46 is based upon dependent claim 5, which was indicated as allowable by the Examiner if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Only one member of the Markush group originally recited in the base claim has been retained, namely “an undulating pattern”, which limitation the Examiner indicated as patentable.

New dependent claim 47 is identical to dependent claim 2.

New dependent claim 48 is similar to dependent claim 9. Support may also be found, for example, in FIG. 6.

New independent claim 49 is based upon dependent claim 6, which was indicated as allowable by the Examiner if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Only one member of the Markush group originally recited in the base claim has been retained, namely “a wave pattern”, which limitation the Examiner indicated as patentable.

New dependent claim 50 is identical to dependent claim 2.

New dependent claim 51 is similar to dependent claim 9, except that it recites that the “wave pattern comprises a plurality of rows”. Support may be found, for example, in FIG. 7.

Rejection of Claims 1, 32, 34, 40 and 42-45
Under 35 U.S.C. §102(b) as Anticipated by Watanabe et al.

Claims 1, 32, 34, 40 and 42-45 were rejected under 35 U.S.C. §102(b) as being anticipated by Watanabe et al. (U.S. 4,643,526).

As pointed out above, independent claims 1, 32, and 40 have been amended to incorporate subject matter from dependent claims 3, 33, and 41, respectively, indicated by the Examiner as patentable.

Thus, independent claims 1, 32, and 40 should be found to be allowable over Watanabe et al., and Applicants respectfully request that the rejection of claims 1, 32, and 40 under 35 U.S.C. §102(b) as being anticipated by Watanabe et al. should be withdrawn.

Claims 34 and 42-45, which depend from claims 32 and 40, respectively, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Rejection of Claims 36 and 39
Under 35 U.S.C. §102(e) as Anticipated by Hashimoto

Claims 36 and 39 were rejected under 35 U.S.C. §102(e) as being anticipated by Hashimoto (U.S. 6,448,634).

As pointed out above, independent claim 36 has been amended to incorporate subject matter from dependent claim 37 indicated by the Examiner as patentable.

Thus, independent claim 36 should be found to be allowable over Hashimoto, and Applicants respectfully request that the rejection of claim 36 under 35 U.S.C. §102(e) as being anticipated by Hashimoto should be withdrawn.

Claim 39, which depends from claim 36 and incorporates all of the limitations therein, is also asserted to be allowable for the reasons presented above.

Rejection of Claim 1
Under 35 U.S.C. §102(e) as Anticipated by Horiuchi et al.

Claim 1 was rejected under 35 U.S.C. §102(e) as being anticipated by Horiuchi et al. (U.S. 6,229,099).

As pointed out above, independent claim 1 has been amended to incorporate subject matter from dependent claim 3 indicated by the Examiner as patentable.

Thus, independent claim 1 should be found to be allowable over Horiuchi, and Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. §102(e) as being anticipated by Horiuchi should be withdrawn.

Rejection of Claims 19, 21-22, 24, and 35
Under 35 U.S.C. §103(a) as Unpatentable over Watanabe et al.

Claims 19, 21-22, 24 and 35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Watanabe et al. (U.S. 4,643,526).

As pointed out above, independent claim 19 has been amended to incorporate subject matter from dependent claim 20 indicated by the Examiner as patentable. Thus, independent claim 19 should be found to be allowable over Watanabe et al., and Applicants respectfully request that the rejection of claim 19 under 35 U.S.C. §103(a) as being anticipated by Watanabe et al. should be withdrawn.

Claims 21-22 and 24, which depend from claim 19, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

As is pointed out below, independent claim 32 has been amended to incorporate subject matter from dependent claim 33 indicated by the Examiner as patentable, and thus independent claim 32 should be found to be allowable. Claim 35, which depends from claim 32, and incorporates all of the limitations therein, is also asserted to be allowable for the reasons presented above.

Rejection of Claims 1, 19, 21-22, 24, 32, 34-35, 40, and 42-45
Under 35 U.S.C. §103(a) as Unpatentable over Ceresa et al.

Claims 1, 19, 21-22, 24, 32, 34-35, 40 and 42-45 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ceresa et al. (U.S. 3,967,162).

As pointed out above, independent claims 1, 19, 32, and 40 have been amended to incorporate subject matter from respective dependent claims that were indicated by the Examiner as patentable.

Thus, independent claims 1, 19, 32, and 40 should be found to be allowable over Ceresa et al., and Applicants respectfully request that the rejection of claims 1, 19, 32, and 40 under 35 U.S.C. §103(a) as being anticipated by Ceresa et al. should be withdrawn.

Claims 21-22 and 24, which depend from claim 19, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Claims 34-35 and 44-45, which depend directly or indirectly from claim 32, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Claims 42-43, which depend from claim 40, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Rejection of Claim 2
Under 35 U.S.C. §103(a) as Unpatentable over Horiuchi et al.

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Horiuchi et al. (U.S. 6,229,099).

As pointed out above, independent claim 1 has been amended to incorporate subject matter from dependent claim 3 that was indicated by the Examiner as patentable.

Thus, independent claim 1 and the claims dependent therefrom, including dependent claim 2, should be found to be allowable over Horiuchi et al., and Applicants respectfully request that the rejection of claim 2 under 35 U.S.C. §103(a) as being unpatentable over Horiuchi et al. should be withdrawn.

Allowable Subject Matter

Applicants note with appreciation the allowance of claims 7-12 and 16-18.

Claims 3-6, 20, 23, 33, 37-38, and 41 were objected to as being dependent upon a rejected base claim, but they were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As noted above, claims 3, 5-6, 20, 23, 33, 37-38, and 41 have been thus rewritten.

However, as noted above regarding independent claims 1, 46, and 49, not all of the original limitations of claim 1 have been retained. Only the particular type of pattern recited in

dependent claims 3, 5, and 6, respectively, and indicated by the Examiner as patentable, has been recited, and the other patterns originally recited in the Markush group of claim 1 have been deleted.

Additional Elements and Limitations

Applicants consider additional elements and limitations of the claims to further distinguish over the cited references, and Applicants reserve the right to present arguments to this effect at a later date.

Conclusion

Applicants respectfully submit that claims 1-2, 4, 7-12, 16-19, 21-24, 32, 34-36, 38-40, and 42-51 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney Walter W. Nielsen at (602) 298-8920 (Arizona Time) or the below-signed attorney to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

TEE ONN CHONG ET AL.

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Date May 21, 2003

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on this 28 day of May, 2003.

Name Kacia Lee

Signature: Kacia Lee